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04/20/97

**TO: Jet Propulsion Laboratory
Attn: Mr. Kirk Bilby
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4800 Oak Grove Drive
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SUBJECT: Letter Of Transmittal, Monthly Status Report

In accordance with Contract #960100, Infotec Development Inc. hereby submits one original hard copy of DRD MA006, Monthly Progress Report, for the month of March 97. Please contact me at 818-584-0878 for questions.

R. KENT THOMSON
ISDS Program Manager

Original and Copies to Mr. Don Lord (525 3600)

Cover Letter and Cost Appendices to:
Mr. Kirk Bilby (190 220)
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**Information Systems Development Support (ISDS) Contract
Monthly Progress Report**

Developed by
The ISDS Team
2700 E. Foothill, Suite 200
Pasadena CA 91107

Under Contract No. 960100
Control Number: \MAR's\..\9703-00.DOC Rev 0
DRD # MA006
for the month of March 97

for the

California Institute of Technology
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena CA 91109-8099

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1. Executive Summary

"A brief narrative on significant accomplishments and events of the reporting period."

- ISDS received Award Fee Period 2 results and we wish to thank JPL for an 88% award.
- Performance evaluations were complete for all PacerInfotec personnel on 21 February. CSC personnel evaluations will be complete this week.
- From last month: *Work on CWO 39 in support of SPMC has been outsourced to Allied Signal. The current CWO expires in March and no subcontract has been negotiated with Allied. It is our recommendation that the CWO be extended through the fiscal year.*

This work order has been extended to mid May.

- All CWO's impacted by the new facilities rate (resulting from CWO 52) have been repriced and contract mods have been received from JPL.

Significant personnel actions since the last report:

- CWO 3 - Roughly 4-6 weeks after requirements were identified, Mr. George Banfalvi will be starting on 5 May to support new efforts on this CWO.
- CWO 14 – Ms. Mathy Ravichanthra resigned effective 28 March.
- CWO 16 - Within one month of defining new requirements for this CWO, Mr. Sebastian Van Alphen started work on 14 April.
- CWO 30 – Mr. Geoffrey Coward was hired within one month of having requirements defined for SFT development.
- CWO 60 - Roughly 4-6 weeks after requirements were identified, Mr. Matthew Dailey will be starting on 28 April supporting this new CWO.

Open staff requirements

- CWO 56 - C on Sun OS developer with RS 232 experience. Several personnel have been identified resources to accomplish this work.
- CWO ?? - We are working to identify two people with VxWorks talent to support a new project for Mr. Muh-Wang Yang, Automation and Control Section, Avionic Systems and Technology Division, Engineering and Science Directorate. We became aware of this requirement on 11 April and have identified two well qualified candidates.

Contract Work Orders and Staff

26-Feb-97

#	Title	CWO Manager	Staff Members	
3	Telemetry Simulation Assembly (TSA II)	Kathleen	Rundstrom	
			Ron	Holden
			Youbin	Mao
			Shyan-wee (Joseph)	Jao
5	Design Engineering and Logistics Support	Steve	Rockwell	
			Gerhard	Stiebel
8	Section Network/System Administrator	Steve	Rockwell	
			Hajime	Sano
11	CSN Multi-Use S/W (MSW)	Roger	Thomson	
			Nhon	Hoang
			Julianna	Magallon
13	Goldstone Solar System Radar Data Acquisition Sys	Steve	Rockwell	
			Robert	Frye
			Chad	Nikoletich

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#	Title	CWO Manager	Staff Members	
14	DSCC Telemetry Subsystem (DTM) Software	Kathleen	Rundstrom	
			Mathy	Ravichanthira
			Hon	Tran
			Ron	Holden
			Calvin	Cheung
15	Product Verification Subsystem/SSCANSAR	Steve	Rockwell	
			Kenneth	Bell
16	Enhancement & Maintenance of Metric Prediction	Steve	Rockwell	
			Jeffrey	Schredder
			Wayne	Tung
			Jonathon	Walther
17	GCF Interface	Edward	Embick	
			David	Haupt
27	Advanced Comm Services (ACS) Data Delivery	Kathleen	Rundstrom	
			Brian	Schlade
			Wayne	Tung

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#	Title	CWO Manager	Staff Members
28	Advanced Comm Services (ACS) Monitor/Control	Kathleen	Rundstrom Erik Stan Barkley Mak
29	Monitor & Control X-Server Support	Edward	Embick Jay Cai
30	Network Control Program Common Services	Roger	Thomson Robert Vui Donnelly Vu
31	Adv Comm Svcs Rel Net Svc CS	Kathleen	Rundstrom Jeff Michael Bernard Deifik Dern Widynski
32	Adv Comm Svcs Telem Chanl Assmbly CS	Kathleen	Rundstrom Randy Tang

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#	Title	CWO Manager	Staff Members	
33	DSCC Radio Science Comm Processor S/W	Steve	Rockwell	
			Steve	Rockwell
			Randy	Tang
36	Section 395 Programming Support	Edward	Embick	
			John	Veregge
38	SETS/OIS	Roger	Thomson	
			Rhonda	Bagnato
39	SPMC Support	Roger	Thomson	
			Gary	Oye
40	NOCC Maintenance & Enhancement	Roger	Thomson	
			Bo	Cen
43	System Admin Support to EIS	Roger	Thomson	
			Paul	Averill
			George	Wang
			David	Coppedge
			Michael	Huang

#	Title	CWO Manager	Staff Members
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45	Sea Dragon Command Center Test Bed	Kathleen	Rundstrom	
			Michael	Guadarrama
46	EIS File Service Technical Writer	Edward	Embick	
			Susan	Kientz
47	VLBI Project Software Engineer	Edward	Embick	
			Jeff	Deifik
48	MGSO Documentation Technical Support		Edward	Embick
			Martha	Perdomo
49	Duplicating and Distribution Support	Edward	Embick	
			Concepcion	Alvarez
			Hao	Le
			George	Mondol
			Lowell	Weight
			Iris	Young

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#	Title	CWO Manager	Staff Members
50	Electronic Forms and Inventory	Edward	Embick
			Dave Swantek
			Karen Gerfen
52	Third Floor Development Center	Steve	Rockwell
			Steve Rockwell
53	34 Meter Array Development	Edward	Embick
			Ron Holden
54	Galileo CD Technical Writer	Edward	Embick
			Susan Kientz
55	TC & DM Test Support	Edward	Embick
			Cindy Lush
56	SPC and DMD Implementation	Edward	Embick
			Clyde Chadwick

2. CWO Status and Recommendations

Paragraphs in bold italics below identify the generic context in which the status of each active CWO will be discussed. This is presented here as a guideline for both the writer and the reader.

Performance Status

“The Contract Work Order Manager’s assessment of progress made in meeting the requirements of the CWO. The CWO Manager shall identify current problems associated with these efforts and any corrective actions to be taken.”

Major Accomplishments

“Identify contractual deliveries, accomplishment of critical activities, Contract reviews and CWO milestones.”

Cost/Funds Status

“Address relevant areas of cost, such as potential cost problems, their estimated magnitude, planned corrective action and predicted cost outcome. Any projected changes in the CWO’s cost Estimate-at-Completion (EAC) shall be fully explained. Contrast the EAC with the current funds ceiling and identify funding shortfalls or overages. Identify funds expiration date.”

Schedule Status

“Identify activities and milestones that have slipped from the baseline schedule, with the reason(s) for the slip, and identification of the corrective action measures implemented.”

Quality/Config Management

“The Product Assurance Program Manager’s assessment of this CWO including current issues, accomplishment of tasking, plans, changes to budget requirements, et al.”

Problems and Proposed Solutions Summary

“The CWO Manager’s summary of problems and proposed solutions including requirements for support from JPL.”

Plans

- *“Forecast Accomplishments. Identify activities and milestones that are expected to be completed during the next reporting period.”*
- *“Proposed Re-plans. Identify schedule items that should be replanned and new items to be incorporated into the established baseline schedule.”*

“Proposed Cost Adjustments. Identify adjustments to the CWO Target Cost which are required for changes in scope.”

CWO Status Summary

CWO #	Title	Cost	Schedule	Performance	Staff	Funding
3	Telemetry Simulation Assembly (TSA II)					
5	Design Engineering and Logistics Support					
8	Section Network/System Administrator					
11	DSN Multi Use Software (MSW)					
13	Goldstone Solar System Radar Data Acquisition					
14	DSCC Telemetry Subsystem (DTM) Software					
15	Product Verification Subsystem/SSCANSAR					
16	Enhancement & Maintenance of Metric Prediction Software					
17	GCF Interface (GIF)					
27	Advanced Communications Services (ACS) Data Delivery					
28	ACS Monitor & Control (M&C)					
29	M&C X/Server Supt					
30	Network Control Program					
31	Reliable Network Server					
32	ACS TCA Common Svcs					
33	Radio Science					
36	Sec 395 Programming Supt					
39	SPMC Support					
40	NOCC S/W Supt					
43	EIS Sys Admin Supt					
44	DCE Cell Design					
45	Sea Dragon Command Center Test Bed					
52	Third Floor Development					
53	34 Meter Array Development					
54	Galileo CD Technical Writer					
55	TC & DM Test Support					
56	SPC and DMD					
GOOD						
WATCH CLOSELY						
IN TROUBLE						

2.1 CWO 01 was closed on 25 Jan 95

2.2 CWO 02 was closed 17 Sep 95

2.3 CWO 03 - Telemetry Simulation Assembly (TSA II)

2.3.1 Performance Status

2.3.1.1 Major Accomplishments

- Installed the TSA assembly (MIL-72) to get it ready for its mission in Florida.
- Ported the TSAK code to Solaris 2.5 platform and working to resolve issues related to using Multi-Use Software in the TCA on the Solaris 2.5 platform.
- Continued work on the new interface document to enhance the monitor data reporting capability. The agreement has to be reconciled with the Network Monitor & Control group before we can start the implementation.
- Began working out the technical details of the new adapter cards.

2.3.1.2 Cost/Funds Status

- CWO 3-3 for FY97 is running under budget because Douglas Lam was taken off the Work Order at the customers request in November of 1996, Youbin Mao went on vacation in December '96 and Mr. Shyan-Wee Jao, a consultant, did not charge the work order from Dec. '96 through Jan '97 and Mar. '97.

2.3.1.3 Schedule Status

- The software schedule has slipped to accommodate the uncertainty in the hardware development area.

2.3.2 Quality/Config Management

- Idle.

2.3.3 Problems and Proposed Solutions Summary

- None.

2.3.4 Plans

- Continue above work. The development of the next version of TSA software will gear up as soon as concrete interface agreements can be reached.

2.4 CWO 04 - was closed on 3 Jan 1995.

2.5 CWO 05 - Design Engineering and Logistics Support

- This work order is now defunct as the task has been outsourced to Allied Signal. A contractual action by JPL has been requested to close the CWO.

2.6 CWO 6 - was closed on 17 Sep 95.

2.7 CWO 7 - was closed on 17 Sep 95

2.8 CWO 8 - Section Network/System Administrator

2.8.1 Performance Status

2.8.1.1 Major Accomplishments

This is an ongoing network administration task consisting of general administrative actions, hardware upgrade/install/troubleshoot actions, new/upgrade/troubleshoot software actions, and solution of network related problems. Noteworthy activities include:

- Worked with Secs 336 and 392 to ease the transition for 392s computer support team. Briefed 392s team about the specifics of B161.
- Completed installing, configuring, and testing video conferencing hardware and software for the group sups located in B161.
- Began migration of users off of QuickMail server to Unix based Eudora or QuickMail Pro. Educated users on differences between the systems so they can make their own choice. Had accounts created on the appropriate Unix mail servers. Installed new mail software. Set mail to forward from QuickMail server. Registered changes with x500 database. Hoping to have everyone off of QuickMail server and shut down the server by late April or mid May.

Cost/Funds Status

- CWO 8-4 for FY97 is on budget.

2.8.1.2 Schedule Status

- This is a LOE support task with no schedule baseline.

2.8.2 Quality/Config Management

- N/A

2.8.3 Problems and Proposed Solutions Summary

- None

2.8.4 Plans

- Continue system and network support.

2.9 CWO 9 - DSCC Tracking Subsystem (DTK) Software: Metric Data Assembly was completed on 15 Sep 96.

2.10 CWO 10 - MPA Enhancements - Automate 26M Operations was completed on 15 Sep 96

2.11 CWO 11 - DSN Multi-Use Software (MSW)

2.11.1 Performance Status

2.11.1.1 Major Accomplishments

- Van Hoang completed the support testing of the Monitor Data (MD) display port for BVR (Block V Receiver).
- Van started code changes of the LMC Simulator.
- Support was provided by both Van Hoang and Julie Magallon to the following subsystems:
 - BVR
 - Telemetry Channel Assembly (TCA)
 - Translator Service
 - Antenna Controller Replacement (ACR)
- Engineering builds were provided for the following subsystems:
 - TCA
 - Deep Space Terminal (DST)
 - Translator Service
 - Telemetry Simulation Assembly (TSA)
- Released MSW 1.8.2 to ISDS CM for the following platforms:
 - SUN OS (2.X)
 - Vadsworks
 - vxWorks for the Power PC
 - Real/IX 68K (noansi)

2.11.1.2 Cost/Funds Status

- CWO 11-6 is going to overrun by 19K because, at JPL's request, Julie Magallon transitioned back to this work order from CWO 32 three months earlier than originally planned. A supplement has been submitted to cover this increase.

2.11.1.3 Schedule Status

- On schedule.

2.11.2 Quality/Config Management

- Idle

2.11.3 Problems and Proposed Solutions Summary

- None.

2.11.4 Plans

- Deliver MSW 1.8.2 to SPMC.
- Continue code changes of the LMC Simulator. The LMC Simulator code has been transferred from Luis Constanla to Van Hoang so that the code can be modified in order to run more than one LMC (simulated) at one time. This is necessary to reproduce TSA AR's.
- Complete the MSW matrix.

2.12 CWO 12 - was closed on 17 Sep 95

2.13 CWO 13 - Goldstone Solar System Radar Data Acquisition System Design and Integration

2.13.1 Performance Status

2.13.1.1 Major Accomplishments

- Test mode is operational on correlator/accumulator board (CAB).
- Verified operation of code and sum counters.
- Produced correlated and anti-correlated streams in test mode.
- Corrected dpram timing on adder side.

2.13.1.2 Cost/Funds Status

- CWO 13-6 for FY97 is under budget by \$67k because of 1) ODC of 18K for production of correlator boards being shifted out to June '97 and 2) anticipated labor hours are lower by 644 hrs to be used between April '97 and end of Fiscal year.

2.13.1.3 Schedule Status

- Tasks are on schedule - See attachment.

2.13.2 Quality/Config Management

- N/A.

2.13.3 Problems and Proposed Solutions Summary

- No major problems.

2.13.4 Plans

- Verify DSP port operation with DSP board.
- Verify operation of CAB with Taxi board and Blk V RCVR.
- Start design of PN coder.

2.14 CWO 14 - DSCC Telemetry Subsystem (DTM) Software

2.14.1 Performance Status

2.14.1.1 Major Accomplishments

- The TCA and TGC software is currently being modified to include Fault Tolerant Data Delivery (FTDD) capabilities. The goal is to add sufficient FTDD capability in time to support MGS. Details of this effort follow:
 - The TCA S/W yellow build (OP J, version 10.1.0) was prepared for ISDS CM and SPMC is generating a formal build;
 - Assisted ISDS CM and SPMC in building the TCA yellow version S/W;

- Fixed a number of anomalies of type Categories A and B as documented in the current anomaly list. Major effort was focused on fixing anomalies related to interfacing with MCD3 and with the RNS data delivery path;
- TCA S/W has entered formal pre-acceptance test..
- Performing ongoing modifications to TGC/TCA documentation for the Phase 2.0 delivery.
- Assisted the ACS test team during end to end testing.
- At the end of last year, telemetry software was projected to be 2 months behind schedule for the Mars Global Surveyor delivery. Now, due to the hard work of the telemetry team, it is only 1 month behind. The telemetry team has successfully delivered the TGC and TCA Software yellow builds and will soon deliver the green builds in time for MGS engineering test, scheduled to start early May at Goldstone.

2.14.1.2 Cost/Funds Status

- CWO 14-7 is going to overrun by 138K due to personnel changes, and customer authorized overtime required to meet the MARS Global Surveyor delivery on May 1, 1997. A supplement has been submitted to cover this increase.

2.14.1.3 Schedule Status

- On schedule. A Green Build for the DTM S/W will be delivered to SPMC on 4/21/97 so that we will be able to enter Acceptance Test as planned.
- See schedule in Appendix A (Combined FTDD, MSW, & DTM Telemetry). This is a combined schedule showing the relationships between CWO's 14, 31 and 32.

2.14.2 Quality/Config Management

- Updated RDD and delivered build for TGC 7.1.5

2.14.3 Problems and Proposed Solutions Summary

- None

2.14.4 Plans

- Ron Holden will continue to perform pre-acceptance/regression tests on the Yellow Builds until the Green Build is delivered to SPMC on 4/21/97 and then he will support Acceptance Test.
- Continue fixing Class A1 anomalies for the Green Build Delivery.
- Finish SOM, TCA/TGC RDDs, also update STP1/2 and SIS.

2.15 CWO 15 - Alaska SAR Facility Product Verification Subsystem Processor S/W

2.15.1 Performance Status

2.15.1.1 Major Accomplishments

- Delivered the PVS version 1.4.9 software to ASF in Fairbanks, Alaska which marks the end of this phase of the project.

2.15.1.2 Cost/Funds Status

- CWO 15-3 is significantly under budget because two personnel have been moved off this CWO and not replaced. We are interested in replacing these personnel but, to date, JPL has not indicated any immediate need.

2.15.1.3 Schedule Status

- Schedule maintained by JPL.

2.15.2 Quality/Config Management

- Backups, CM provided internally. Deliveries made directly to project without going through SPMC. JPL maintains ASF-delivered configuration.

2.15.3 Problems and Proposed Solutions Summary

- None

2.15.4 Plans

- Begin work on phase 2 of this task.

2.16 CWO 16 - Enhancement & Maintenance of Metric Prediction Software

2.16.1 Performance Status

2.16.2 Major Accomplishments

- Completed the effort to put all SSSM code into the ClearCase tool and formal walk through of SSSM code.
- Consulted with NSS Operations about generation of K-Band, TTY , MPA, MPF and ULF predicts.
- Investigated and solved a time regression problem in ULF predicts used to support the VSOP Project.
- Prepared and gave the first in a series of lectures on the Metric Prediction Generation process.

2.16.2.1 Cost/Funds Status

- CWO 16-6 is projected to overrun the current target cost by 129K. Additional scope is being added to the CWO at JPL's request and a CWO supplement is currently being prepared to cover the increased cost.

2.16.2.2 Schedule Status

- Schedule maintained by JPL.

2.16.3 Quality/Config Management

- N/A.

2.16.4 Problems and Proposed Solutions Summary

- No significant problems.

2.16.5 Plans

- Begin work on the Predict Generation Design.
- Integration Test of the SSSM.
- Begin MPG porting from NSS to NPP.

2.17 CWO 17 - GCF Interface (GIF)

2.17.1 Performance Status

- Mr. David Haupt, hired as a consultant, is supporting this effort which has been extended and is now scheduled to complete September 21, 1997.

2.17.1.1 Major Accomplishments

- Completed Change Requests (CR's) for the GIF Transformation Libraries and CDR File Interface were delivered to Configuration Management for inclusion in V22.2.
- RNS Initialization and subscription was coded and tested. Delivery to Configuration Management planned for V22.3
- CR 6361 - Lunar Prospector Data Processing - was completed and delivered to Configuration Management for inclusion in V22.2
- Failure Report 6123 - TRK-2-15A Processing - correction delivered to Configuration Management.

2.17.1.2 Cost/Funds Status

- CWO 17-3 is being extended at JPL's request to the end of FY97. Additional funding will not be needed.

2.17.1.3 Schedule Status

- Schedule is maintained by JPL.

2.17.2 Quality/Config Management

- N/A.

2.17.3 Problems and Proposed Solutions Summary

- None.

2.17.4 Plans

- Continue work on GIF Status Broadcasting and Logging of Unrecognized Blocks Failure Reports.

2.18 CWO 18 - was closed on 17 Sep 95

2.19 CWO 19 - was closed on 17 Sep 95

2.20 CWO 20 - was closed on 29 Dec 95

2.21 CWO 21 - was closed on 17 Sep 95

2.22 CWO 22 - was closed on 7 Mar 95

2.23 CWO 23 - was closed on 17 Sep 95

2.24 CWO 24 - was closed on 18 Sep 95

2.25 CWO 25 - was closed on 31 Oct 95

2.26 CWO 26- was closed on 5 Dec 95

2.27 CWO 27- Advanced Communications Services (ACS) Data Delivery

2.27.1 Performance Status

2.27.1.1 Major Accomplishments

RNS (Reliable Network Server): ISDS engineers are performing software engineering and test in support of the upcoming RNS delivery for MGS. Accomplishments and activities include the following:

- Providing support for the RNS during the ACS End-to-End test.
- Performed code updates to accommodate for the new ISIS version in the RNS monitor task & RNS start up task

2.27.1.2 Schedule Status

- Although the overall RNS task is about 4 weeks behind schedule, Wayne Tung and Chris Yung, the ISDS engineers assigned to this task, are meeting their assigned deadlines.

2.27.1.3 Cost/Funds Status

- CWO 27-2 is currently on budget.

2.27.2 Quality/Config Management

- Idle.

2.27.3 Problems and Proposed Solutions Summary

- Personnel have been moved over to Building 525 temporarily to mitigate schedule risk by enhancing communication with the JPL personnel. Brian Schladen and Chris Yung, who had been supporting both CWO 27 and CWO 28 have been asked to support only this work order for the rest of FY97.

2.27.4 Plans

- Continue supporting the RNS task in order to meet the MGS deadline.
- Continue to support ACS End-to-End test.

2.28 CWO 28- Advanced Communications Services (ACS) Monitor & Control

2.28.1 Performance Status

2.28.1.1 Major Accomplishments

- Central Data Recorder (CDR): Stan Mak, an ISDS Engineer, is the CDE for the CDR program and is also performing software development and test in support of the upcoming MGS delivery of the new CDR. Accomplishments and activities include the following:
 - CDR Green Build submitted to SPMC for version 2.1.2.
 - Supported ACS end to end data flow testing
 - Completed 50% of Acceptance test
- GCF Monitor and Control Program Eric Barkely, an ISDS Engineer, has been asked to become the GMP CDE and is also performing software development and test in support of the upcoming MGS delivery of the new GMP. Eric is also providing expertise in the debugging and enhancement of the legacy GMP system currently in place. Accomplishments and activities include the following:
 - Corrected anomaly for launching of SFG channel/LAN monitor displays
 - Upgraded the GMP workstation to include CDR displays and added launch of new GMP displays.
 - Released current version of the checkpoint software for integration into the GMP.
 - Supported Acceptance Test

2.28.1.2 Cost/Funds Status

CWO 28 -2 for FY97 is going to overrun by 24K because of customer authorized over time and the addition of Chris Yung and Brian Schladen to the work order in January. Chris and Brian have been completely allocated to CWO 27 effective mid-March 1997. . A supplement had been submitted to cover this increase.

2.28.1.3 Schedule Status

- GMP is on Schedule.
- CDR is on Schedule

2.28.2 Quality/Config Management

- Updated RDD and delivered build for CDR 2.1.1
- Updated RDD and delivered build for CDR 2.1.2

2.28.3 Problems and Proposed Solutions Summary

- Personnel have been moved over to Building 525 temporarily to mitigate schedule risk by enhancing communication with the JPL personnel.

2.28.4 Plans

- CDR - Support Acceptance Test.
- GMP - Support Acceptance Test.

2.29 CWO 29 - Network Monitor & Control Trans/Server Support

2.29.1 Performance Status

- Performed Multi-Mission Spacecraft Analysis System (MSAS) test analysis and documentation. The V3.0 Validation test procedures were completed.
- Summary of V3.0A testing:

	<u>Tests Run</u>	<u>AR's Opened</u>	<u>AR's Closed</u>
Assigned Tools	158	145	113
Other	6	26	16

- Maintained MSAS test web pages. Sent Anomaly Reports (AR's) to developers and updated databases with new applications and developers.

2.29.1.1 Major Accomplishments

- Finished memory mapping for TS recovery.
- Rewrote mon_response_cb.
- Merged error handler bask to TS (version ts.feb13).
- Coded error event notice for TS.

2.29.1.2 Cost Funds Status

- At the current level of support requested by JPL, this CWO will be over run by 54K. The customer is aware a modification is needed to cover Mr., Jay Cai charges and a supplement has been submitted.

2.30 CWO 30 - Network Control Program Common Services

2.30.1 Performance Status

2.30.1.1 Major Accomplishments

Major Accomplishments

- Vui Vu worked with Judy Yin to complete test drivers, scripts, data files, test documents, and traceability tables needed for CATA PAT.
- Bernie Widynski learned how to use FTDD test tool and started work on transforming the current program into callable subroutines. The subscribe side is done. Work on integrating the data generator and the publish side was started.
- Bob Donnelly delivered MCIS 1.1.2 to CS CM on 3/19 and compiled it as "beta 6" in the developer prototype area. This fixes a number of PRs found during PAT and elsewhere.
- Bob Donnelly delivered CATA 1.0.2 to CS CM on 3/21/97 and compiled it as "beta 6" in the developer prototype area.
- Bob Donnelly worked on MCIS testing:
 - Designed and implemented MCIS LAN test based on LAN performance requirement. This set of scripts produces the amount of MD traffic expected at one station.
 - Designed MCIS LAN test based on WAN performance requirement.
 - Ran many MCIS performance tests involving a few to over a hundred processes. Defined several MCIS performance issues which should be addressed in Delivery 2.
- Bob Donnelly worked on NCP Test Bed:

- Provided input on Ethernet port, shared memory settings, and SUDO use for machine configuration for Translator.
- Supported EIS and external DCE consultant in their efforts to fix CDS problem.
- Found fix of CDS problem involving file descriptor limit.
- Tracked continuing DFS problems.
- Bob Donnelly made CDT enhancements involving receiving many simultaneous directive responses and startup capabilities.
- Bob Donnelly performed SysAdmin on SPMC build machine, formatting a new disk and changing various partitions.
- Bob Donnelly performed SysAdmin on ISDS (CWO 30) Suns, updating various software, installing GNU compilers, backing up system files, optimizing disk use to reduce network traffic, and preparing Sun for new CWO 30 employee.
- Geoff Coward started on April 9 and has been learning about the DSN, NCP, CS, and MCIS.
- Bob Donnelly and NCP OSE performed regression tests for MCIS API and SCF.
- Bob Donnelly provided input to Delivery 2 plans and schedule for April 15 NCP Delivery 2 retreat.

2.30.1.2 Cost/Funds Status

- CWO 30-1 requires a modification to accommodate additional scope. Mr. Dan Magallon has been added to the CWO to coordinate test planning and execution for NCP. A modification is in work for additional personnel. An estimated cost has been submitted for this modification.

2.30.1.3 Schedule Status

- On schedule.

2.30.2 Quality/Config Management

- Reviewed and updated RDD for SCF, MCIS, CAT
- Delivered 1.0.0. to SPMC for SCF, CAT MCIS
- Supported NCP CM meetings for Clear Case
- Implemented Clear Case for NCP -CS software
- Reviewed
- SITP-1,SITP-2 for MCIS
- supported SPMC configuration set up for NCP (SPMC) Delivery

2.30.3 Problems and Proposed Solutions Summary

- The NCP Test Bed is much improved. The CDS fix corrected the last major outstanding issue. Minor issues such as DFS failures and delays remain to be addressed. Working on test bed issues has impacted our entire schedule.

2.30.4 Plans

- Continue NCP CS PAT, including MCIS performance tests and CATA.

2.31 CWO 31 - ACS RNS CS

2.31.1 Performance Status

2.31.1.1 Major Accomplishments

Fault Tolerant Data Delivery (FTDD) and GCC Accountability Software (GAC): Mike Dern is the lead engineer for the FTDD and GAC software development effort, which are Common Software Components required to support the upcoming MGS delivery of the new RNS. Mike has also been critical in assisting the rest of the RNS team in their development and test efforts. Accomplishments and activities include the following:

- Delivered FCS and GAS software to ISDS CM (for delivery to SPMC) - Green disk - Version 1.16.2 FCS, Version 1.7.8 GAS
- Updated FCS Software operations manual (SOM)
- Supported FCS and GAS users (TCA, CDR, SPT, RNS and AMMOS) on all platforms by answering user questions, correcting anomalies and enhancing software to better meet users needs.
- Assisted the RNS development group in debugging RNS software (discovered an anomaly in the RNS data manager software and proposed a successful solution) and by participating in an RNS code walk-through which uncovered additional errors in the RNS code.
- Assisted in ACS End-to-End testing.

2.31.1.2 Cost/Funds Status

- CWO 31 is going to overrun by \$23K due to the addition of Jeff Deifik to the work order for 2 months and due to customer authorized overtime. A supplement had been submitted to cover this increase.

2.31.1.3 Schedule Status

- On Schedule. See schedule in Appendix A (Combined FTDD, MSW, & DTM Telemetry). This is a combined schedule showing the relationships between CWO's 14, 31 and 32

2.31.2 Quality/Config Management

- Updated RDD and build for FTDD 1.15.3
- Updated RDD and build for FTDD 1.16.2
- Updated RDD and delivered build for FTDD 1.16.5
- Updated RDD and build for GACC1.7.1
- Updated RDD and build for GACC 1.7.8

2.31.3 Problems and Proposed Solutions Summary

- None.

2.31.4 Plans

- Continue testing FTDD and accountability code.
- Update SSD etc. for FTDD and GAS
- Code and test remote monitoring of FCS client's and proxy

- Continue support in analysis of TCA Phase 1 anomalies (loss of data as reported by SCP)

2.32 CWO 32 - ACS TCA Common Services

2.32.1 Performance Status

2.32.1.1 Major Accomplishment

- Supporting TCA development staff in integration of TCA and FTDD.

2.32.1.2 Cost Funds Status

- CWO 32-2 For FY97 is on budget.

2.32.1.3 Schedule Status

- On Schedule. See schedule in Appendix A (Combined FTDD, MSW, & DTM Telemetry). This is a combined schedule showing the relationships between CWO's 14, 31 and 32

2.32.2 Quality/Config Management

- Idle.

2.32.3 Problems & Proposed Solutions Summary

- None.

2.32.4 Plans

- Continue supporting the TCA / FTDD integration effort as needed.

2.33 CWO 33 - DSCC Radio Science Communications Processor (RSCP) Software

2.33.1 Performance Status

2.33.1.1 Major Accomplishment

- Performed Demo at DTF-21 of the Remote OPS Predicts Task.
- Tested new RSCP fixes of the POCA time tag mismatch problem.
- Modified and tested FMS Status bit in the RSC-11-12 data blocks.

2.33.1.2 Cost Funds Status

- CWO 33-2 For FY97 is going to overrun by 14k due to additional hours to meet the customer requirement. Expect to be back on budget in the next quarter due to diminished involvement by the Radio Science CDE.

2.33.1.3 Schedule Status

- The schedule for this CWO is maintained by JPL work order manager.

2.33.2 Quality/Config Management

- Idle.

2.33.3 Problems & Proposed Solutions Summary

- None.

2.33.4 Plans

- Finish RSCP fixes on POCA time tag mismatch problem.
- Submit OP-D version 400 software to ISDS CM and SPMC for a Green Build and begin Acceptance Testing.
- Begin work on the Closed Loop Control Task.

2.34 CWO 34 - Alaska SAR Programming Support was complete 15 Sep 96

2.35 CWO 35 - Never Place On Contract

2.36 CWO 36 - Section 395 Programming Support

2.36.1 Performance Status

- Performed Multi-Mission Spacecraft Analysis System (MSAS) test analysis and documentation. The V3.0 Validation test procedures were completed.
- Summary of V3.0A testing:

	<u>Tests Run</u>	<u>AR's Opened</u>	<u>AR's Closed</u>
Assigned Tools	158	145	113
Other	6	26	16

- Maintained MSAS test web pages. Sent Anomaly Reports (AR's) to developers and updated databases with new applications and developers.

2.36.1.1 Major Accomplishment

- Completed MSAS V3.0 testing.

2.36.1.2 Cost Funds Status

- CWO 36 -1 For FY97 is on budget..

2.36.1.3 Schedule Status

- The schedule is maintained by JPL.

2.36.2 Quality/Config Management

- Idle.

2.36.3 Problems & Proposed Solutions Summary

- Requirements Integration Tests Cases are still behind schedule. The JPL Lead System Engineer is aware and working the problem.
- Requirements Validation Test Cases are still behind schedule. AFT was delivered for V3.0.A with the validation tests run the week of the delivery (when the JPL System Analyst delivered them), but the analysis of the results are still incomplete. MDT was delivered for 3.0.A without validation testing. The JPL System Analyst is still working on the tests for 3.0.A.

2.36.4 Plans

- Complete V3.0.B testing.
- Complete conversion of CGI software to perl after V3.0 delivery completed.
- Maintain MSAS test web pages.

2.37 CWO 37 - Work Order Processing System (Section 644) - Closed 4 October 96

2.38 CWO 38 - Schedule, Estimating, Tracking System (SETS) (Section 644)

2.38.1 Performance Status

A draft document was submitted to David Deats identifying the contents of directories on the \\techsvcs server and \\sets server. To date, a connection to these servers is no longer available. No additional work will be done on this CWO unless these connections are restored.

2.38.1.1 Cost Funds Status

- CWO 38 overran the original target cost.
- A CWO supplement has been executed to allow JPL to fund the overrun. Although quoted to include fee, this supplement is not fee bearing because it is being executed to cover an overrun.

2.39 CWO 39 - SPMC Configuration Management Support

2.39.1 Performance Status

2.39.1.1 Major Accomplishment

- Attended the following meetings: SPMC tape archives (IPC), plans to move SPMC to 510, AFS, DOSL, and CWO 39 (2/20), SPMC tape archive inspection (2/21, bldg 600/601), NCP Delivery 1 (2/25 and 3/4, bldg 525), DDTS/ARSO version number control (2/26, bldg 525), DOSL LAN configuration (2/27, bldg 507), Allied Signal's "safety excellence training" (3/7), introduction on ISO-9001 at bldg 502/300 (3/11), meeting with ISDS CWO Managers to discuss control of management, engineering and CM processes in preparation of ACS tasks (TCA, CDR, FCS/FTDD, GACC) and NCP (CS) (3/12), trial-run for TCA with SPMC's Susie Fowler, ISDS' Hon Tran and Doug Lam to review the new VxWorks procedures (bldg 525), section meetings with Laverne Hall (2/20 and 3/12, bldg 525).
- As a result of meetings held, proposed a plan for proceeding with DOSL delivery to the stations involving hardware reconfiguration, LAN considerations, software loading consistent with current station needs, DSN software maintenance, tape drive/system swapping and test limitations. Addressed space problems and disk/tape usage for SPMC systems. Updated list of SPMC equipment in preparation for move to 510. Coordinating plans for SPMC's use of McCabe software (Could this be better executed through the SPA group?).
- Worked with JPL and ISDS Team on configuration of ACS software components CDR, TCA, GMP, RNS, FTDD, HPST, GACC. Identified problems with CDR 2.1.0 at ISDS Team office, MSW 1.7.3 for Sun platform, DualStor on SPMC's OS/2 machine, missing software on 'kelvin', 'forest' access for

NRT, NCP builds (UDS, TS, and NMC workstation components UI, GCE, CE), SPMC lines of code processes, limited Archive mechanisms for support software at SPMC. _Continued responding to On-Line System inquiries (approval access, program IDs, who's who, document/code request, AR build versions).

- Supported software build requests for: UGC/TB 2.3 (AT), HSPT 5.0 (AT), ETC 1.0.0 (AT), B3MCD 1.2.0 (AT, soak), NRT 5.2.1 (AT), ASC 9.0.0 (Pre-AT), SCF 1.0.1 (Pre-AT), UDS 1.0.1a (Pre-AT), DGT 6.3.8 (soak), CPA 4.0.0 (soak), CMA 9.01 (soak), NMCUI 1.0.3, NMCCE 1.0.3, NMCGCE 1.0.3, NMCTS 1.0.2, CDR 2.1.0, FCS 1.13.3, GACC 1.13.3.

2.39.1.2 Cost Funds Status

- CWO 39-1 is on budget.

2.39.1.3 Schedule Status

- This is an LOE support task.

2.39.2 Quality/Config Management

- NA

2.39.3 Problems & Proposed Solutions Summary

- This work has been outsourced to Allied Signal. The current CWO expires in March and no sub-contract has been negotiated with Allied. It is our recommendation that the CWO be extended through the fiscal year.

2.39.4 Plans

- Continue support.

2.40 CWO 40 - Network Operations Control Center Support was closed Feb 97.

2.41 CWO 41 - ISDS Additional Tasks was complete 15 Sep 96.

2.42 Arrayed Doppler - PCWO canceled

2.43 CWO 43 - System Admin Support to EIS

CWO 43 is a Cat A task and not directly managed by ISDS.

2.43.1 Cost Funds Status

CWO 43 is expected to complete JPL FY96 on budget compared to the submitted cost estimate.

- George Wang was interviewed and hired for this CWO with the approval from JPL and relocation expenses in the amount of \$4,961.67 will be charged in Oct.96 for JPL FY97.

For FY97, this CWO is going over the budget as planned because JPL authorized additional hours .

A supplement is needed to cover for this over run.

2.44 CWO 44 - DCE Cell Design Consultation

2.44.1 Performance Status

- PSW Inc. has completed their work. Since there is no follow-on anticipated by JPL, this CWO is being closed effective the end of this reporting period

2.44.1.1 Cost Funds Status

- CWO 44-1 is going under run because actuals for ODC/travel were lower than anticipated.

2.45 CWO 45 - Sea Dragon Command Center Test Bed

2.45.1 Performance Status

2.45.1.1 Major Accomplishment

- Sea Dragon
 - Supported Hunter Warrior Exercises at Camp Pendleton
 - Closed out Shared Net Task
- GCCS Oracle Upgrade
 - Created a script to assist in analyzing Ada source code dependencies in existing GCCS Ada code for the GCSS Oracle Upgrade project . The script catalogs filename and line number locations of package inclusions, package definitions, package bodies, function definitions and function calls.

2.45.1.2 Cost Funds Status

- CWO 45 A supplement has been submitted to cover the extension of this work order through the end of the fiscal year, at the customers request.

2.45.1.3 Schedule Status

- Schedule being maintained by JPL and Telos

2.45.2 Quality/Config Management

- Idle

2.45.3 Problems & Proposed Solutions Summary

- Need Oracle 7.3 to investigate Sybase migration scripts.

2.45.4 Plans

- Continue current work.

2.46 CWO 46 - EIS File Service Technical Writer

2.46.1 Performance Status

- EIS File Service Site (current)
- The web page hit counter documentation was improved and expanded to include a form to generate a unique counter name. The accounts section was modified to include links to Distributed Computing Environment (DCE) and Distributed File System (DFS) sign up. The Windows 95 AFS client and (unreleased) 6.1 client install steps were swapped in response to a user suggestion.
- The DFS sign up was fixed after URLs were redone to point to the eis1 server. A link for ordering AFS Documentation was made more prominent at reviewers' suggestion. Also updated was the fall-back sign up form. A warning was added against enabling integrated login to the Windows NT Known Limitations file.
- Windows 95 authentication commands were changed to reflect the new afspt3 and afspt4 folders seen by users when logging on. They are now "afs," "afs-jpl," "home," and "ets-usr-bin." Documentation for unix2dos and dos2unix utilities for Windows 95 and NT 4.0 clients was completed, released, and announced. Work continued getting DFS documentation ready for release. The new Windows 95 AFS client still needs testing to hash out Kerberos requirement that were renamed afspt3 and afspt4 as actual host names for Kerberos to work.
- EIS File Service site (in development)
- Directories for new structure created with appropriate names. Some structure moved around to make more logical sense of order. Files from old site moved over and renamed as necessary. Obsolete formatting deleted. Links checked and rewritten as needed. All but one second-level heads on top page filled and their links enabled.
- Files from the old site were moved over and reformatted, removing navigation links and design effects and realigning links to work on new site. New second-level file menus were created and links enabled. By month's end, all current information was in place. We are waiting for the completion by JPL of the publish program which will add nav bars and other decorations to readied files. Updates

to the current site were also made to the development site, since the files are already there and stripped of old formatting. This obviates the need to copy updated files over to development site later and restriping them.

- At a review meeting the last week of the month, we discussed rearranging the new "What is EIS File Service" section, adding an "AFS vs. DFS" page, combining "Costs" and "Benefits," etc. All these edits were accomplished by week's end. Then on March 31, working with JPL's frames examples templates, the templates were copied into a working site at <http://eis/~skientz/frames>, which showed six example designs actually incorporated with the new content and naming structure.

2.46.1.1 Major Accomplishments

- EIS File Service, development site: Published a working model of all the different styles possible, to be used for review, at <http://eis/~skientz/frames>.

2.46.1.2 Cost/Funds Status

- For FY97 is on budget.

2.46.1.3 Schedule Status

- EIS File Service -- current site: The site is still maintained and working. There are no goals for this site except that it work until we switch to new site.
- EIS File Service -- development site: We are ready to proceed.

2.46.2 Quality/Config Management

- Revision control is in place.

2.46.3 Problems and Proposed Solutions Summary

- The program to add nav bars and decorations is late, but not our responsibility. Even if we don't get these touches, the site works as it stands, and conceivably could be released. The only thing not really "live" is the auto-daily downloaded tool catalog. We have asked for this several times, but have been asked to hold off contacting the people involved.

2.46.4 Plans

- Finish the new site for the upcoming demo scheduled for a limited group at the end of the first week of April, and then begin modifying it, once it is and all links hot.

2.47 CWO 47 - VLBI Project Software Engineer

2.47.1 Performance Status

- Continued to make major performance improvements to source code, mainly related to tcfgen, the primary program.

2.47.1.1 Major Accomplishments

- No major accomplishments this month.

2.47.1.2 Cost/Funds Status

- A supplement has been submitted to accommodate request of JPL CWO manager to extend this CWO to last through the end of JPL FY97.

2.47.1.3 Schedule Status

- Schedule is maintained by JPL.

2.47.2 Quality/Config Management

- All the software is under version control using cvs, a standard version control system, and we are using standardized make files.

2.47.3 Problems and Proposed Solutions Summary

- We still have very poor test case coverage. We will attempt to improve the test cases, perhaps even adding module tests.

2.47.4 Plans

- Continue to enhance tcfgen and clean up source code and documentation.

2.48 CWO 48 - MGSO Documentation Technical Support

2.48.1 Performance Status

- **Version 22.0 documents:**
- Completed recreating SEQ_REVIEW User Guide i.e. cover page, Table of Contents, Body of Document, all charts and tables, and inserted all graphics. Prepared library submission forms. Submitted to library. Received final copy from library. Made copies and memo then sent it out to distribution.
- Received SIS SASF Document from library. Made copies and memo then sent it out to distribution.
- All documentation cycles complete and final status report for this version sent out.
- **Version 22.1 documents:**
- **Voyager High Speed Simulator** - Sent out signature page to signatory and received it back signed - signature cycle complete. Prepared library submission forms. Submitted to MGSO Library.
- All documentation cycles complete and final status report for this version sent out.
- **Version 22.2:**
- **Work Implementation Plan** - Made further Revisions.

- **Environment File for SEQ** - Completed three sets of revisions, made hard copies, sent them out, and completed the review cycle. Sent final electronic copy out for review to the author. Signature page was sent to first signatory - cycle is currently in process.
- Spoke with author over phone to discuss revisions, and called library to verify document number. Submission forms were prepared.
- **SIS SASF** - Completed revisions. Made hard copies, sent them out, and completed the review cycle. Sent final electronic copy out for review to the author. Signature page was sent to first signatory. Signature cycle is currently in process, and submission forms have been prepared.
- **SIS SSF** - Revisions were completed. Spoke with author over phone to discuss revisions. Called library to verify document number, and sent final electronic copy out for review to the author.
- **TAS Documents** - Resent signature pages to signatory. Worked on revisions
- Prepared and distributed Planning and Sequencing Document Tracking Status Report three times this month for the following versions 22, 22.1, 22.2 and TAS Documents.
- Met with MGSO Librarian to obtain document numbers and histories needed for documents.

2.48.1.1 Major Accomplishments

- Completed documentation for Version 22 and one Version 22.1.

2.48.1.2 Cost/Funds Status

- On budget.

2.48.1.3 Schedule Status

- Schedule is maintained by JPL.

2.48.2 Quality/Config Management

- All documents are under version control.

2.48.3 Problems and Proposed Solutions Summary

- None.

2.48.4 Plans

- Begin preparation of Version 22.3, continue progress with Version 22.2, and complete TAS documents.

2.49 CWO 49 Duplicating and Distribution Support

2.49.1 Performance Status

- Details of the ISDS support activities can be found in the *Logistics Information Technology Office (LITO) Status Report for March*, 6410-97-0023. Highlights follow.

- Division 64 Information Technology Support - Routine Division support included scheduling and/or coordinating training classes; preparing a presentation for Division 64 concerning customer satisfaction surveys; developing support software for the Technical Media Library; and in general responding to user service requests for software modification, data, or help. Finished a change request for Graphics Vending Services application. This request was urgent and needed right away, and will delay the change requests for the Work Order System and Time Keeping Systems for a week. The Work Order System and Graphics Vending applications were tested on an NT server. Work was also done setting up the connection to the MASS Mainframe.
- Weekly meetings with the Archives and Record group (section 642) were attended. These meetings were about providing support in analysis of SIRSI system and Archives' requirements for integration with the new on-line library system. The Archives and Record center wants to buy a new on-line archiving system. SIRSI corporation is one of the prospective vendors. The JPL library is currently using their product.
- Duplication and Distribution - Completed modifications to the Weekly Operation Report application for the Document Distribution Group. Completed six reports in the Copier Inventory Management application. Compiled data and generated a 250 page report for copier cost comparison between the old contract and the new Cost Per Copy contract.

2.49.1.1 Major Accomplishments

- Major modification to the Document Distribution Label Management System (DDLMS) were completed in record time. The new JPL Base Pay program (effective 3/17/97) had great impact on the DDLMS application. However, we were not informed until 3/17/97 that the Base Pay program was being changed. To modify the application required analysis of the design of the Base Pay Program. Several people in JPL had to be contacted for information. Finally a person in HR was contacted who was given the requirement for the daily download file - JPL employee information which is used by the application. Besides doing other projects, the assigned ISDS programmer/analyst, in week and half, implemented all the necessary changes needed to be done in the DDLMS.

2.49.1.2 Cost Funds Status

- This CWO is on budget.

2.49.1.3 Schedule Status

- Schedule Maintained by Code 644.

2.49.2 Quality/Config Management

- N/A.

2.49.3 Problems and Proposed Solutions Summary

- N/A

2.49.4 Plans

- Continue software development, day-to-day information technology support, Help Desk and Division 64 support as required.

2.50 CWO 50 Electronic Forms and Inventory

2.50.1 Performance Status

- **Forms Management** - Three more modules of the Forms Services Application (FSA) were completed. Continued to complete design of the overall Forms Management System (FMS) and respond to user requests for help installing and using Formflow. The webpage was updated with new forms. A user in Travel was assisted in designing an application in Formflow.
- **Inventory Maintenance** - Weekly maintenance and backup of the portion of the Inventory Control System that resides on the IBM 8130 continued.
- Attended two meetings about the reengineering effort for the New Business Solutions. Reviewed the Inventory processes as they exist today and for the future. As the entire project advances involvement could increase.

2.50.1.1 Major Accomplishments

- Forms Management - Approximately 46 user help calls were responded to this month.
- Inventory Maintenance - An ad-hoc spreadsheet of information for the people in Just-in-time(JIT) on photo supplies, quantities, usage and descriptions was created. This has been done before when they are closing a supply center down and moving the supplies to a JIT commodity.

2.50.1.2 Cost Funds Status

- This CWO is on budget.

2.50.1.3 Schedule Status

- Schedule maintained by Code 644.

2.50.2 Quality/Config Management

- N/A.

2.50.3 Problems and Proposed Solutions Summary

- None

2.50.4 Plans

- Continue to complete design of FMS, development of FSA modules, and provide user and inventory system support as required .

2.51 CWO 51 Physical Oceanography Distributed Archive Center was complete Jan 97.

2.52 CWO 52 NPP Development Lab

2.52.1 Performance Status

2.52.1.1 Major Accomplishments

- The facility has been furnished and phone and data cabling is complete.

2.52.1.2 Cost/Funds Status

- This CWO is not yet on contract.

2.52.1.3 Schedule Status

- We are working toward T3 equipment delivery near 1 May. The target date for occupying the facility is 2 June.

2.52.2 Quality/Config Management

- N/A

2.52.3 Problems and Proposed Solutions Summary

- None.

2.52.4 Plans

- There were a number of items recently identified for the lab which are currently being procured. These include white boards, a printing white board, a large conference table and chairs.
- ISDS is arranging a meeting with ACRO, UTA, Telos, and Sterling to discuss facilities billing.
- Cost analysis is complete for the period from 1 Feb through 30 May and an estimate has been submitted to JPL contracts. A cost estimate must be developed for the period from 1 June to the end of the FY.

2.53 CWO 53 - 34 Meter Array Development Support

2.53.1 Performance Status

- Attending weekly Full Spectrum Processor (FSP) test planning meetings.

2.53.1.1 Major Accomplishments

- None.

2.53.1.2 Cost Funds Status

- Paperwork for CWO is in JPL contracts.

2.53.1.3 Schedule Status

- Schedule maintained by JPL.

2.53.2 Quality/Config Management

- N/A.

2.53.3 Problems and Proposed Solutions Summary

- The assigned test analyst is completing another assignment and is only part-time until June. Since the subsystem is not scheduled to be operational until the end of 1999, and is still in an early phase of development, this delay will not affect his participation in test development.

2.53.4 Plans

- Study the DTM Test Plan/Procedure document and identify test that apply to the FSP.

2.54 CWO 54 - Galileo CDROM Technical Writer

2.54.1 Performance Status

- All major sections outlined and assigned continued to be delivered in an assortment of due dates. All deadlines were met. A second writer (non-ISDS) has dropped off this project, leaving the entire workload on the ISDS assigned part-time technical writer.
- Massive rewrites were made to all previously submitted sections to "bring down" the target audience reading level. New instructions were given that the entire delivery needed rewrite, no longer to lower target audience, but now to create a more "familiar" and casual tone. The original writers were told they were not at fault, but that there was a lack of understanding about what the final product should be like when the writing assignments were given.
- The ISDS writer followed up this meeting with an e-mail outlining her thoughts and giving some proposals on where to go from there. The result was a decision on a new process: The ISDS writer would not rewrite, but continue the initial writing of all sections requested, and since the other writer dropped out, the project would hire a "style reviewer" who could give the material the folksy style that was desired.

2.54.1.1 Major Accomplishments

- None.

2.54.1.2 Cost Funds Status

- Paperwork for CWO is in JPL contracts.

2.54.1.3 Schedule Status

- Schedule maintained by project. All schedules have been met to date.

2.54.2 Quality/Config Management

- N/A.

2.54.3 Problems and Proposed Solutions Summary

- The change in target audience reading level later followed by a significant change in the style requirements has caused serious problems in this writing assignment. It is suggested in the future that some reviewed/approved examples of technical content and complexity level, as well as narrative style be presented to the writers/editors before the actual writing is begun.

2.54.4 Plans

- Continue developing the document.

2.55 CWO 55 - TC and DM Test Support

2.55.1 Performance Status

- The assigned software engineer completed the self-paced classes “Basics of Space Flight Learners’ Workbook” and “End-to-End Information System: Learners’ Workbook, and the Introduction to the Multi-mission Ground Data System (MGDS) for Workstation Users lecture training.
- Cassini Software Interface and Software Requirements Documents were reviewed and an error in the text describing and a telemetry format diagram was uncovered and reported to the author.
- Development of regression tests for the Telemetry Input system (TIS) V22.4 was begun and one Anomaly Report. (AR) was generated.

2.55.1.1 Major Accomplishments

- Basic training and orientation by the new software engineer has been completed.

2.55.1.2 Cost Funds Status

- Paperwork for CWO is in JPL contracts.

2.55.1.3 Schedule Status

- Ahead of schedule on training, and on schedule for delivery testing..

2.55.2 Quality/Config Management

- N/A.

2.55.3 Problems and Proposed Solutions Summary

- N/A

2.55.4 Plans

- Finish testing and creating regression tests for V22.4 build 1 and Build 2.

2.56 CWO 56 - SPC and DMD Implementation

2.56.1 Performance Status

- Access to quimby via the JPL network from the ISDS facilities using Telnet is up and running. Access to quimby via X-Windows is up, but is quite slow.
- Completed first read-through of TSAC UTIL library code and preliminary PLASMACAL code.
- Completed reading the set of memos on processing SRA range data and X-band uplink data.
- Reviewed the set of software documentation including the Software Operators Manual for the Troposphere Calibration Software and the initial cut at the Plasma Calibration Software Software Requirements Document.
- Identified one candidate Tektronix terminal emulator and several candidate X Windows terminal emulators for the PC.
- Identified a Fortran 90 compiler from HP. HP claims it is source and object compatible with their Fortran 77 compiler.

2.56.1.1 Major Accomplishments

- None.

2.56.1.2 Cost Funds Status

- Paperwork for CWO is in JPL contracts.

2.56.1.3 Schedule Status

- Schedule maintained by JPL.

2.56.2 Quality/Config Management

- Still getting oriented to existing software and documentation.

2.56.3 Problems and Proposed Solutions Summary

- Easier access to the HP Fortran documentation - either hardcopy or online is needed.
- A more convenient means for producing nicely formatted source code listings needs to be devised.
- The Microsoft Telnet client shuts down on occasion with the message "The program has performed an illegal operation". A workaround using a different Telnet client seems to be working so far.

2.56.4 Plans

- Identify the tasks needed to implement the PLASMACAL software set. Produce a schedule for accomplishing these tasks in the required time.
- Produce first approximation to an outline of the PLASMACAL software set.
- Write a program to dump a sample SPR file.
- Participate in discussion on whether to migrate to Fortran 90.
- Participate in discussion on which graphics package (PGPLOT ?) and which terminal emulation (Tektronix? X Windows?) to use for the PLASMACAL graphics output.

2.57 CWO 56 - SPC and DMD Implementation

2.57.1 Performance Status

- The assigned UNIX system administrator began this support the third week in March. He first familiarized himself with the systems currently in place. NIS domains, AMD automounter, hardware and software configurations, network configuration and security.
- Routine system maintenance and administration tasks including software upgrades and installations, regular system backups, investigating AMANDA backup system currently being employed, and providing user support were performed.

2.57.1.1 Major Accomplishments

- The system administrator has assumed complete responsibility for the assigned systems and network.

2.57.1.2 Cost Funds Status

- Paperwork for CWO is in JPL contracts.

2.57.1.3 Schedule Status

- Schedule determined by JPL.

2.57.2 Quality/Config Management

- Routine system backups and software version control being implemented.

2.57.3 Problems and Proposed Solutions Summary

- None.

2.57.4 Plans

- Integrate new hardware into existing configuration. 2) Gradual migration to HP/UX 10.20 on HP systems. 3) Evaluation of alternative backup solutions and storage products. 4) Investigate methods of allowing secure remote logins. 5) Continue ongoing system administration and support.

3. Contract Cost Status

3.1 NASA Form 533M/Q

“A NASA Form 533M report shall be completed in accordance with the instructions on the reverse side of the form. A 533M shall be prepared for the total contract and for each CWO and for each CWO Level 2 WBS Item or below, as mutually agreed upon during negotiations. Reporting categories on each 533M shall be the elements of cost (e.g., labor hours, labor dollars, overhead costs, material, subcontracts, other direct costs, G&A) and profit or fee. A NASA Form 533Q shall be completed in accordance with the instructions on the reverse side of the form. Reporting levels and categories shall be the same as those required for the 533M.”

3.1.1 General

All CWOs are on contract and with the following exceptions: CWOs 41-1,51 through 58.

DCAA has signed off on new provisional billing rates, making last month's unofficial rates now official (Appendix 7).

3.1.2 Reports

The following reports are included in this month's deliverable.

3.1.2.1 NASA 533M - JPL FY 1997 (Appendix 2)

The attached NASA 533M report is for the Infotec Development, Inc. accounting period Sept. 21,1997 to accommodate JPL FY97 . As agreed at the 11 September 1995 CWO/Cost Management meeting with JPL, the ISDS Team is reporting only the current JPL fiscal year (1997) data in the NASA 533. A summary report has been included that shows total costs to date by CWO. The September 1995 Monthly Activity Report (MA006) contains all JPL FY95 year-end cost data detail.

Also per agreement at the 11 September 1995 CWO/Cost Management meeting, we are reporting the latest received negotiated estimate for each CWO in the last column of the NASA 533.

Per JPL request, the Contract Value Cost summary on the NASA 533 reflects the total negotiated costs (last column) of all CWOs for JPL FY97 only. Since CWOs are used by JPL to establish funding and are based on latest revised cost estimates (actual costs plus estimate to complete), CWOs clearly do not track changes only in scope or original baseline estimates. ISDS attempts to maintain individual CWO Contract Values (2nd to last column) internally as baseline target costs. The ISDS Microframe cost management system is designed for building these baseline estimates “bottoms up” and can only be revised easily for changes in scope. Due to the following reasons, CWO baselines are becoming more difficult to maintain and are resulting in less meaningful individual CWO Contract Values.

- Most CWO efforts are not task-driven, since the period of performance for most CWOs starts and ends commensurate with the JPL fiscal year. It is difficult to maintain a target cost associated with the task, when the task may continuously change to fit the period of performance.
- The staffing for most CWOs are level of effort. Deltas in past labor costs are often attributed to a combination of scope, staffing, personnel rate, and requirement changes. Since CWO Supplements are based on the total latest revised estimate, it is often difficult to determine the portion of cost associated with a baseline change and over/underun.

- Our JPL technical customers are often very involved in the staffing process. When personnel changes result in cost deltas, it is often unclear whether the baseline Contract Value should be changed.

The Contract Value Fee summary header reflects the total fee pool established by negotiated CWOs. The Fund Limitation is the total of all individual CWO funding for JPL FY97. Since some CWO's may be partially funded, or funded only for PCWO effort, this amount may differ from the sum of the Contract Value Cost and Fee.

Billing values are totals from ISDS contract inception through the reporting date.

3.1.2.2 NASA 533Q - JPL FY 1997

Appendix

3.1.2.3 Monthly Whole Hours/Dollars Report - JPL FY 1997(Appendix 3)

This report depicts monthly and cumulative whole hours and whole dollar cost estimates associated with each CWO. *It is based only on JPL FY 97 CWO effort.*

3.1.2.4 ISDS Cumulative Costs - From Contract Inception (Appendix 4)

This report summarizes cumulative actual costs and total latest revised estimates from inception of the contract, including JPL FY 95, 96 and 97 effort. It is provided per agreement at the 11 September 1995 CWO/Cost Management meeting with JPL and per NASA Handbook 9501.2B (Procedures for Contractor Reporting of Correlated Cost and Performance Data) Section 301, Paragraph 4b (10).

3.1.2.5 ISDS Personnel Allocation (Appendix 5)

This report is provided per request of JPL. It depicts the current approximate allocation of each ISDS employee to each CWO, at the end of the reporting month. This table only illustrates the association of an employee to a CWO and does not reflect equivalent man-months budgeted, percentage of the month actually worked, or any vacation/sick time.

3.1.2.6 CWO Funding Projections (Appendix 6)

This table projects the date that current CWO funding expires, if prior to the end of the period of performance. It also identifies whether 75% of funding will be reached within the next 30 or 60 days, for purposes of the contract funding limitation clause.

3.1.3 Subcontractor Costs

Subcontractor costs reported in November are based on CSC November period of performance costs reported by the CSC Program Management Office (PMO). NASA 533 subcontractor costs are stated in dollars that include CSC overhead and G&A. The overhead and G&A summaries on the NASA 533 depict IDI burdening on all elements of cost.

3.2 Overhead Report

"An overhead report shall provide a listing of the latest bidding, billing and actual overhead and G&A rates by cost centers. The fiscal year calendar shall also be included."

Attached as **Appendix 7** is the draft letter from the Defense Contract Audit Agency (DCAA), stating the ISDS provisional billing rates (see JPL line items). **Appendix 8** states the current overhead rates used in

estimating FY97 costs in this month's report. ISDS accounting and NASA 533 reporting are based on the calendar provided as **Appendix 9**.

The following is a summary of ISDS overhead burdening by cost center.

IDI Employees

- I. Apply IDI fringe rate (salary or salary-plus, as applicable) to direct labor dollars.
- II. Apply ISDS Indirect Facilities rate (onsite or offsite, as applicable) to direct labor dollars. This rate is unique to the ISDS program, and is not company-wide.
- III. Apply IDI G&A to the resulting total burdened amount (subtotal after I and II above).

CSC Subcontractor Costs

- I. CSC applies company-unique overhead and G&A to direct labor dollars, and provides this as their invoiced cost to IDI.
- II. Apply ISDS Indirect Facilities rate (onsite or offsite, as applicable) to CSC burdened amount in I above.
- III. Apply IDI Material & Handling to CSC burdened amount in I above.
- IV. Apply IDI G&A to the Indirect Facility burden pools, itemized in II.

Consultant (IDI only)

- I. Apply IDI G&A to consultant invoiced dollars.

ODC's (billed by IDI only)

- I. Apply IDI G&A to prime dollars.

3.3 Reconciliation

"A reconciliation report shall be prepared in accordance with the instructions on the reverse side of the 533Q.

The following is a program-level reconciliation of the contract estimates for JPL FY97 only. Due to the varying contractual status of each CWO, it is recommended that the narrative for each CWO be referred to when making deductions about cost performance or funding status. Several CWO Contractor Estimates have got ahead of the contractual paperwork and are more up-to-date than the Negotiated Estimates. In some cases, Contractor Estimates reflect requirements given verbally to ISDS, but not yet received in formal CWO Supplements. Because of this, we do not feel that a program-level reconciliation necessarily depicts an accurate cost comparison.

We have provided the most accurate estimates possible in the Contractor Estimate for these CWOs at the time of this report, regardless of the contractual status, in order to provide JPL with the most current cost projections possible.

A) Total of Individual CWO Contract Values (Based on ISDS target baselines)	\$5,991k
B) Total Negotiated Cost Estimates (Based on CWOs signed by JPL Procurement)	\$5,583k
(C) Estimated Final Contractor Estimate	\$5,936k
D) Projected Underrun Delta (B-C)	\$353k
E) Total CWOs not signed by JPL	\$409K

4. RECOMMENDED JPL ACTION

“The Contractor shall identify all critical items that require JPL attention, resolution and/or assistance to successfully maintain or improve the direction of the CWO in order to meet CWO objectives.”

4.1 Contract Work Orders (CWOs)

- ISDS requests formal JPL closure to CWO 34. All effort has been completed.

5. Appendices

5.1 Schedules

5.2 NASA 533M - JPL FY 1997

5.3 Monthly Whole Hours/Dollars Report - JPL FY 19967

5.4 ISDS Cumulative Costs - From Contract Inception

5.5 ISDS Personnel Allocation

5.6 CWO Funding Projections

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5.7 IDI FY96 Provisional Billing Rates

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5.8 IDI FY96 Estimating Overhead Rates

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5.9 ISDS Accounting/Holiday Calendar